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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,284	04/14/2005	Toshiki Kishimoto	050128	5061
23850 7590 07/12/2007 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005			EXAMINER FINEMAN, LEE A	
			ART UNIT	PAPER NUMBER
			2872	
			MAIL DATE	DELIVERY MODE
			07/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/531,284

Applicant(s)

KISHIMOTO ET AL.

Examiner

Lee Fineman

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-16 is/are pending in the application.
- 4a) Of the above claim(s) 1,3-6,9,10 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,11 and 13-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/14/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species II and Species a in the reply filed on 10 May 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election **without** traverse (MPEP § 818.03(a)).

Claims 1, 3-6, 9-10, and 12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

Drawings

2. Figures 2 and 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 11, and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al., US 5,808,793 (henceforth Chang) in view of Trotter, Jr., US 2002/0154403 A1 (henceforth Trotter).

Chang discloses in figs. 4 and 5 a broadband semidouble-type optical isolator characterized by being constituted chiefly of a substrate (59) for placing thereon an optical isolator (56); a one-sheet glass polarizer (49b) disposed on the substrate; a pair of magnetic optical elements (49a and 45a; 49c and 45b) which are each constituted of i) a Faraday rotator (45a, 45b) on each side of which an anti-reflection film has been formed (column 2, lines 49-51) and ii) a polarizer (49a, 49c) which has been formed on one anti-reflection film of the former (figs. 4 and 5 and column 2, lines 49-51), and are respectively laminated to the glass polarizer (49b) on its inside and outside in such a way that each polarizer (49a and 49c) is provided on the outside (figs. 4 and 5); a magnet which imparts a saturated magnetic field to each Faraday rotator of the magnetic optical elements (see column 4, lines 54-60); and wherein an anti-reflection film has been formed on the surface of the polarizer (column 2, lines 49-51). Chang discloses the claimed invention except for the polarizers (49a and 49c) comprise photonic crystals; wherein said photonic crystals are those obtained by alternately layering transparent high refractive index and low refractive index mediums on rows of periodic grooves or linear projections while keeping the shape of interfaces; and wherein said photonic crystals are those obtained by forming periodic grooves by lithography. Trotter teaches an optical isolator (36) which includes polarizers (38 and 40) comprising photonic crystals; wherein said photonic crystals are those

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optical isolator (36) which includes polarizers (38 and 40) comprising photonic crystals; wherein said photonic crystals are those obtained by alternately layering transparent high refractive index and low refractive index mediums on rows of periodic grooves or linear projections while keeping the shape of interfaces (page 2, paragraph [0021]); wherein said photonic crystals are those obtained by forming periodic grooves by lithography (page 2, paragraph [0020]); and wherein the outermost layer of said anti-reflection film on which the polarizer comprising photonic crystals is formed is an SiO₂ layer (page 2, paragraph [0021], when SiO₂ is the outer layer, the antireflective coating will be formed on it). It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the polarizers (49a and 49c) of Chang with the photonic crystal polarizers of Trotter to provide a more reliable system in terms of micro movement of the components which is also less labor intensive (Trotter, page 1, paragraph [0007]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lee Fineman whose telephone number is (571) 272-2313. The examiner can normally be reached on Monday - Friday 7:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on (571) 272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Lee Fineman
Patent Examiner
AU 2872
6 July 2007